

ANALYTICAL REPORT

Job Number: 280-70279-3

Job Description: GSI - McConnell AFB - SWMU 207

For:

GSI Environmental, Inc
9600 Great Hills Trail, Ste 350E
Austin, TX 78759

Attention: Anna Zabierek

M. Elaine Walker

Approved for release.
Elaine M Walker
Project Manager II
6/25/2015 3:14 PM

Elaine M Walker, Project Manager II
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06/25/2015

The test results in this report relate only to the samples in this report and meet all requirements of NELAP, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

TestAmerica Laboratories, Inc.

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CASE NARRATIVE
Client: GSI Environmental, Inc
Project: GSI - McConnell AFB - SWMU 207
Report Number: 280-70279-3

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

Six samples were received on 06/05/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 1.9°C.

The Chain of Custody does not list a sample collection time for trip blank sample 54403-TB19-0615 (280-70279-1). The sample was logged with a collection time of 09:00 per instructions received on Friday, June 05, 2015.

The Chain of Custody requests that samples 54400-MW43-0615 (280-70279-3) and 54400-MW55D-0615 (280-70279-6) be analyzed on a rush turnaround time for the VOC analysis. Due to current laboratory capacity, the fastest turnaround time that TA Denver is able to provide for the requested analyses is 10 business days.

The rush VOC analysis for samples 54400-MW43-0615 (280-70279-3) and 54400-MW55D-0615 (280-70279-6) will be reported under SDG 280-70279-2 on a 10 business day turnaround time with a Level II report. The results of these rush samples, along with the other samples/analyses will be reported with a Level IV report and EDD under SDG 280-70279-1 on a standard 15 business day turnaround time.

Please note - this report contains the results of Total Phosphorus and Sulfite, which the TestAmerica Denver laboratory does not hold DoD ELAP certification for. These parameters are being reported under the TestAmerica Standard QC program, and not as a DoD QSM 5.0 report.

TOTAL PHOSPHORUS

Sample 54400-MW55D-0615 (280-70279-6) was analyzed for total phosphorus in accordance with EPA Method 365.1. The sample was prepared and analyzed on 06/19/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

SULFITE

Sample 54400-MW55D-0615 (280-70279-6) was analyzed for sulfite in accordance with SM20 4500 SO3 B. The sample was analyzed on 06/08/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

SAMPLE SUMMARY

Client: GSI Environmental, Inc

Job Number: 280-70279-3

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-70279-6	54400-MW55D-0615	Water	06/04/2015 1510	06/05/2015 0700

EXECUTIVE SUMMARY - Detections

Client: GSI Environmental, Inc

Job Number: 280-70279-3

Lab Sample ID Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
280-70279-6 Total Phosphorus as PO4	54400-MW55D-0615	0.016	J	0.15	mg/L	365.1

METHOD SUMMARY

Client: GSI Environmental, Inc

Job Number: 280-70279-3

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Phosphorus, Total	TAL DEN	EPA 365.1	
Phosphorus, Total	TAL DEN		MCAWW 365.2/365.3/365
Sulfite	TAL DEN	SM SM 4500 SO3 B	

Lab References:

TAL DEN = TestAmerica Denver

Method References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

METHOD / ANALYST SUMMARY

Client: GSI Environmental, Inc

Job Number: 280-70279-3

Method	Analyst	Analyst ID
EPA 365.1	Schwemin, Andrew J	AJS
SM SM 4500 SO3 B	Bland, Morgan R	MRB

Analytical Data

Client: GSI Environmental, Inc

Job Number: 280-70279-3

General Chemistry

Client Sample ID: 54400-MW55D-0615

Lab Sample ID: 280-70279-6

Client Matrix: Water

Date Sampled: 06/04/2015 1510

Date Received: 06/05/2015 0700

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Phosphorus as PO4	0.016	J	mg/L	0.015	0.15	1.0	365.1
Analysis Batch: 280-282883 Analysis Date: 06/19/2015 2230							
Prep Batch: 280-282836 Prep Date: 06/19/2015 1544							
Sulfite	0.50	U HF	mg/L	0.50	2.0	1.0	SM 4500 SO3 B
Analysis Batch: 280-280818 Analysis Date: 06/08/2015 1208							

Quality Control Results

Client: GSI Environmental, Inc

Job Number: 280-70279-3

Method Blank - Batch: 280-282836

Method: 365.1

Preparation: 365.2/365.3/365

Lab Sample ID: MB 280-282836/4-A
Client Matrix: Water
Dilution: 1.0
Analysis Date: 06/19/2015 2230
Prep Date: 06/19/2015 1544
Leach Date: N/A

Analysis Batch: 280-282883
Prep Batch: 280-282836
Leach Batch: N/A
Units: mg/L

Instrument ID: WC_Konelab
Lab File ID: 061915TPHOS.xls
Initial Weight/Volume: 50.0 mL
Final Weight/Volume: 50.0 mL

Analyte	Result	Qual	MDL	RL
Total Phosphorus as PO4	0.015	U	0.015	0.15

Lab Control Sample - Batch: 280-282836

Method: 365.1

Preparation: 365.2/365.3/365

Lab Sample ID: LCS 280-282836/3-A
Client Matrix: Water
Dilution: 1.0
Analysis Date: 06/19/2015 2230
Prep Date: 06/19/2015 1544
Leach Date: N/A

Analysis Batch: 280-282883
Prep Batch: 280-282836
Leach Batch: N/A
Units: mg/L

Instrument ID: WC_Konelab
Lab File ID: 061915TPHOS.xls
Initial Weight/Volume: 50.0 mL
Final Weight/Volume: 50.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Phosphorus as PO4	1.53	1.65	108	90 - 110	

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 280-282836

Method: 365.1

Preparation: 365.2/365.3/365

MS Lab Sample ID: 280-70279-6
Client Matrix: Water
Dilution: 1.0
Analysis Date: 06/19/2015 2230
Prep Date: 06/19/2015 1544
Leach Date: N/A

Analysis Batch: 280-282883
Prep Batch: 280-282836
Leach Batch: N/A

Instrument ID: WC_Konelab
Lab File ID: 061915TPHOS.xls
Initial Weight/Volume: 50.0 mL
Final Weight/Volume: 50.0 mL

MSD Lab Sample ID: 280-70279-6
Client Matrix: Water
Dilution: 1.0
Analysis Date: 06/19/2015 2230
Prep Date: 06/19/2015 1544
Leach Date: N/A

Analysis Batch: 280-282883
Prep Batch: 280-282836
Leach Batch: N/A

Instrument ID: WC_Konelab
Lab File ID: 061915TPHOS.xls
Initial Weight/Volume: 50.0 mL
Final Weight/Volume: 50.0 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Total Phosphorus as PO4	105	107	90 - 110	2	10		

Quality Control Results

Client: GSI Environmental, Inc

Job Number: 280-70279-3

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-282836**

**Method: 365.1
Preparation: 365.2/365.3/365**

MS Lab Sample ID: 280-70279-6 Units: mg/L
Client Matrix: Water
Dilution: 1.0
Analysis Date: 06/19/2015 2230
Prep Date: 06/19/2015 1544
Leach Date: N/A

MSD Lab Sample ID: 280-70279-6
Client Matrix: Water
Dilution: 1.0
Analysis Date: 06/19/2015 2230
Prep Date: 06/19/2015 1544
Leach Date: N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Total Phosphorus as PO4	0.016	J	1.53	1.53	1.63	1.66

Quality Control Results

Client: GSI Environmental, Inc

Job Number: 280-70279-3

Method Blank - Batch: 280-280818

Method: SM 4500 SO3 B
Preparation: N/A

Lab Sample ID:	MB 280-280818/1	Analysis Batch:	280-280818	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	06/08/2015 1208	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Sulfite	0.50	U	0.50	2.0

Lab Control Sample - Batch: 280-280818

Method: SM 4500 SO3 B
Preparation: N/A

Lab Sample ID:	LCS 280-280818/2	Analysis Batch:	280-280818	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	06/08/2015 1208	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfite	31.0	20.0	65	50 - 150	

Duplicate - Batch: 280-280818

Method: SM 4500 SO3 B
Preparation: N/A

Lab Sample ID:	280-70279-6	Analysis Batch:	280-280818	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	06/08/2015 1208	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Sulfite	0.50 U	0.50	NC	20	U

DATA REPORTING QUALIFIERS

Client: GSI Environmental, Inc

Job Number: 280-70279-3

Lab Section	Qualifier	Description
General Chemistry	HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
	U	Indicates the analyte was analyzed for but not detected.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Quality Control Results

Client: GSI Environmental, Inc

Job Number: 280-70279-3

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:280-280818					
LCS 280-280818/2	Lab Control Sample	T	Water	SM 4500 SO3 B	
MB 280-280818/1	Method Blank	T	Water	SM 4500 SO3 B	
280-70279-6	54400-MW55D-0615	T	Water	SM 4500 SO3 B	
280-70279-6DU	Duplicate	T	Water	SM 4500 SO3 B	
Prep Batch: 280-282836					
LCS 280-282836/3-A	Lab Control Sample	T	Water	365.2/365.3/365	
MB 280-282836/4-A	Method Blank	T	Water	365.2/365.3/365	
280-70279-6	54400-MW55D-0615	T	Water	365.2/365.3/365	
280-70279-6MS	Matrix Spike	T	Water	365.2/365.3/365	
280-70279-6MSD	Matrix Spike Duplicate	T	Water	365.2/365.3/365	
Analysis Batch:280-282883					
LCS 280-282836/3-A	Lab Control Sample	T	Water	365.1	280-282836
MB 280-282836/4-A	Method Blank	T	Water	365.1	280-282836
280-70279-6	54400-MW55D-0615	T	Water	365.1	280-282836
280-70279-6MS	Matrix Spike	T	Water	365.1	280-282836
280-70279-6MSD	Matrix Spike Duplicate	T	Water	365.1	280-282836

Report Basis

T = Total

Quality Control Results

Client: GSI Environmental, Inc

Job Number: 280-70279-3

Laboratory Chronicle

Lab ID: 280-70279-6

Client ID: 54400-MW55D-0615

Sample Date/Time: 06/04/2015 15:10 Received Date/Time: 06/05/2015 07:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:365.2/365.3/365	280-70279-F-6-A		280-282883	280-282836	06/19/2015 15:44	1	TAL DEN	AJS
A:365.1	280-70279-F-6-A		280-282883	280-282836	06/19/2015 22:30	1	TAL DEN	AJS
A:SM 4500 SO3 E	280-70279-A-6		280-280818		06/08/2015 12:08	1	TAL DEN	MRB

Lab ID: 280-70279-6 MS

Client ID: 54400-MW55D-0615

Sample Date/Time: 06/04/2015 15:10 Received Date/Time: 06/05/2015 07:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:365.2/365.3/365	280-70279-F-6-B MS		280-282883	280-282836	06/19/2015 15:44	1	TAL DEN	AJS
A:365.1	280-70279-F-6-B MS		280-282883	280-282836	06/19/2015 22:30	1	TAL DEN	AJS

Lab ID: 280-70279-6 MSD

Client ID: 54400-MW55D-0615

Sample Date/Time: 06/04/2015 15:10 Received Date/Time: 06/05/2015 07:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:365.2/365.3/365	280-70279-F-6-C MSD		280-282883	280-282836	06/19/2015 15:44	1	TAL DEN	AJS
A:365.1	280-70279-F-6-C MSD		280-282883	280-282836	06/19/2015 22:30	1	TAL DEN	AJS

Lab ID: 280-70279-6 DU

Client ID: 54400-MW55D-0615

Sample Date/Time: 06/04/2015 15:10 Received Date/Time: 06/05/2015 07:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM 4500 SO3 E	280-70279-A-6 DU		280-280818		06/08/2015 12:08	1	TAL DEN	MRB

Lab ID: MB

Client ID: N/A

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:365.2/365.3/365	MB 280-282836/4-A		280-282883	280-282836	06/19/2015 15:44	1	TAL DEN	AJS
A:365.1	MB 280-282836/4-A		280-282883	280-282836	06/19/2015 22:30	1	TAL DEN	AJS
A:SM 4500 SO3 E	MB 280-280818/1		280-280818		06/08/2015 12:08	1	TAL DEN	MRB

Quality Control Results

Client: GSI Environmental, Inc

Job Number: 280-70279-3

Laboratory Chronicle

Lab ID: LCS

Client ID: N/A

Sample Date/Time: N/A

Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:365.2/365.3/36 5	LCS 280-282836/3-A		280-282883	280-282836	06/19/2015 15:44	1	TAL DEN	AJS
A:365.1	LCS 280-282836/3-A		280-282883	280-282836	06/19/2015 22:30	1	TAL DEN	AJS
A:SM 4500 SO3 E	LCS 280-280818/2		280-280818		06/08/2015 12:08	1	TAL DEN	MRB

Lab References:

TAL DEN = TestAmerica Denver

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-70279-3

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
Phos Cal Int_00301	06/24/15	06/17/15	Di Water, Lot na	100 mL	phos cal std_00019	1 mL	Orthophosphate	10 mg/L
							P	10 mg/L
							Total Phosphorus as PO4	30.66 mg/L
.phos cal std_00019	08/01/16		Ricca, Lot 4408888		(Purchased Reagent)		Orthophosphate	1000 mg/L
							P	1000 mg/L
							Total Phosphorus as PO4	3066 mg/L
phos icv Int_00280	06/23/15	06/16/15	Di Water, Lot na	100 mL	Phos ICV std_00010	1 mL	Orthophosphate	10 mg/L
							P	10 mg/L
							Total Phosphorus as PO4	30.66 mg/L
.Phos ICV std_00010	07/18/16		Lab Chem, Lot D198-09		(Purchased Reagent)		Orthophosphate	1000 mg/L
							P	1000 mg/L
							Total Phosphorus as PO4	3066 mg/L
Sulfite LCS_00131	06/09/15	06/08/15	Di Water, Lot na	1000 mL	sodium sulfit 00005	0.314 g	Sulfite	309.918 mg/L
.sodium sulfit_00005	03/31/17		Acros, Lot A0343849		(Purchased Reagent)		Sulfite	98.7 %



RICCA CHEMICAL COMPANY

Arlington, TX 76012

Pocomoke City, MD 21851

Batesville, IN 47006

<http://www.riccachemical.com>

1-888-GO-RICCA

customerservice@riccachemical.com

Certificate of Analysis

Phosphorus AA Standard, 1 mL = 1 mg P (1,000 ppm P)

NH₄H₂PO₄ in H₂O

Lot Number: 4408888

Product Number: AP1KW

Expiration Date: AUG 2016

Manufacture Date: 8/26/2014

This is a single element solution that was prepared volumetrically to contain the certified value reported. The uncertainty associated with the certified value is the sum of the estimated errors due to the purity of the raw material, the volumetric preparation of the solution, and transpiration of the solution through the container wall.

The final solution concentration is confirmed by AA, ICP, or ICP-MS, and is traceable to NIST Standard Reference Material 3139.

This product number replaces 5857 as of 2007.

Contains:

Name	CAS#	Grade
Ammonium Dihydrogen Phosphate, NH ₄ H ₂ PO ₄	7722-76-1	High Purity
Water, Deionized, H ₂ O	7732-18-5	ACS, ASTM D 1193 (Type I)

Test Name	Assay Method	Specification	Result
Appearance	Clarity, Color, Odor	Clear, colorless, odorless	Passed Test
Certified Concentration	Based on accurate volumetric preparation	1000 ± 5 ppm P	1000 ppm P

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Number	Shelf Life
AP1KW-100	24 months
AP1KW-500	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

LaNelle Ohlhausen
Quality Assurance

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

To determine manufacture site using lot number, visit <http://www.riccachemical.com/Documents/lot.pdf>.



Jackson's Pointe Commerce Park - Building 1000
1010 Jackson's Pointe Court, Zellenople, PA 16063
Ph: 412-826-5230 | Fax: 724-473-0647 | www.labchem.com

CERTIFICATE OF ANALYSIS

Description: PHOSPHATE (AS PHOSPHORUS) STANDARD, 1000ppm (1mL = 1mg P)

Catalog Number: LC18590

Mfg Date: 07/18/2014

Lot Number: D198-09

Expiration Date: 07/18/2016

ANALYTICAL SECTION

Test	Specification	Test Result
Appearance	clear, colorless solution	Pass Test
Concentration ppm P	1000ppm +/- 10ppm	1004ppm
Concentration mg P/mL	1.000 +/- 0.010 mg P/mL	1.004 mg P/mL
Traceable to NIST	Potassium Hydrogen Phthalate	84L

Submitted By: Greg Albright, Chemist Supervisor

An ISO9001:2008 certified company. Registration # 0306-01

09/19/2014 9:50:35 AM

Form #17.12 06/19/2012

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ACROS
ORGANICS

Version 0
Molecular weight 126.04
Molecular formula Na₂O₃S
CAS No 7757-83-7
Linear formula Na₂SO₃
Flash point (°C)

Certificate of Analysis

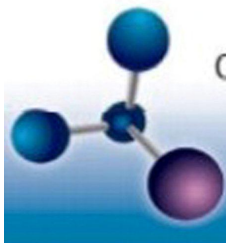
Acros Organics quality system has been found to conform to quality management system ISO9001:2008 standard by SAI global Certificate number CERT-0063301.

This is to certify that units of the below mentioned lot number were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Acros Organics expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Unless otherwise stated, these products are not intended for use in manufacturing, consumption or application of drugs, cosmetics, dialysis, parenteral, injectable products, household chemicals, food additives, agricultural or pesticide products without further processing. The following are the actual analytical results obtained;

Catalog Number	21927	Quality Test / Release Date	24 January 2014
Lot Number	A0343849	Suggested Retest Date	January 2019
Description	Sodium sulfite, 98.5%, for analysis, anhydrous		
Country of Origin	BELGIUM		
Declaration of Origin	synthetic		

Origin Comment

Result Name	Specifications	Test Value
Appearance	White fine crystals or crystalline powder	White fine crystals
Assay Iodimetry	>=98 %	98.5 %
Heavy metals (as Pb)	<=10 ppm	<=10 ppm
Free acid	passes test	passes test
Free alkali (Na ₂ CO ₃)	<=0.15 %	<=0.15 %
Trace analysis	Type: Cl measure <= 100 ppm	Type: Cl measure <= 30 ppm
Trace analysis	Type: Fe measure <= 10 ppm	Type: Fe measure <= 10 ppm
Trace analysis	Type: As measure <= 1 ppm	Type: As measure <= 1 ppm



CERTIFIED BY

L. Van den Broek, QA Manager

Issued: 21 February 2015

Acros Organics
ENA23, zone 1, nr 1350, Janssen Pharmaceuticaalaa 3a, B-2440 Geel, Belgium
Tel +32 14/57.52.11 - Fax +32 14/59.34.34 Internet: <http://www.acros.com>
1 Reagent Lane, Fair Lawn, NJ 07410, USA Fax 201-796-1329

Certification Summary

Client: GSI Environmental, Inc
Project/Site: GSI - McConnell AFB - SWMU 207

TestAmerica Job ID: 280-70279-3

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Denver	A2LA	DoD ELAP		2907.01
TestAmerica Denver	A2LA	ISO/IEC 17025		2907.01
TestAmerica Denver	Alaska (UST)	State Program	10	UST-30
TestAmerica Denver	Arizona	State Program	9	AZ0713
TestAmerica Denver	Arkansas DEQ	State Program	6	88-0687
TestAmerica Denver	California	State Program	9	2513
TestAmerica Denver	Connecticut	State Program	1	PH-0686
TestAmerica Denver	Florida	NELAP	4	E87667
TestAmerica Denver	Georgia	State Program	4	N/A
TestAmerica Denver	Illinois	NELAP	5	200017
TestAmerica Denver	Iowa	State Program	7	370
TestAmerica Denver	Kansas	NELAP	7	E-10166
TestAmerica Denver	Louisiana	NELAP	6	02096
TestAmerica Denver	Maine	State Program	1	CO0002
TestAmerica Denver	Minnesota	NELAP	5	8-999-405
TestAmerica Denver	Nevada	State Program	9	CO0026
TestAmerica Denver	New Hampshire	NELAP	1	205310
TestAmerica Denver	New Jersey	NELAP	2	CO004
TestAmerica Denver	New York	NELAP	2	11964
TestAmerica Denver	North Carolina (WW/SW)	State Program	4	358
TestAmerica Denver	North Dakota	State Program	8	R-034
TestAmerica Denver	Oklahoma	State Program	6	8614
TestAmerica Denver	Oregon	NELAP	10	4025
TestAmerica Denver	Pennsylvania	NELAP	3	68-00664
TestAmerica Denver	South Carolina	State Program	4	72002001
TestAmerica Denver	Texas	NELAP	6	T104704183-13-8
TestAmerica Denver	USDA	Federal		P330-13-00202
TestAmerica Denver	Utah	NELAP	8	CO00026
TestAmerica Denver	Virginia	NELAP	3	460232
TestAmerica Denver	Washington	State Program	10	C583
TestAmerica Denver	West Virginia DEP	State Program	3	354
TestAmerica Denver	Wisconsin	State Program	5	999615430
TestAmerica Denver	Wyoming (UST)	A2LA	8	2907.01

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-70279-3

SDG No.: _____

Project: GSI - McConnell AFB - SWMU 207

Client Sample ID
54400-MW55D-0615

Lab Sample ID
280-70279-6

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: 54400-MW55D-0615

Lab Sample ID: 280-70279-6

Lab Name: TestAmerica Denver

Job No.: 280-70279-3

SDG ID.:

Matrix: Water

Date Sampled: 06/04/2015 15:10

Reporting Basis WET

Date Received: 06/05/2015 07:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Phosphorus as PO4	0.016	0.15	0.015	mg/L	J		1	365.1
14265-45-3	Sulfite	0.50	2.0	0.50	mg/L	U	HF	1	SM 4500 SO3 B

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-70279-3
 SDG No.: _____
 Analyst: AJS Batch Start Date: 06/19/2015
 Reporting Units: mg/L Analytical Batch No.: 282883

Sampl e	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	22:30	Total Phosphorus as PO4	1.29	1.23	105	90-110		phos icv Int_00280
2	ICB	22:30	Total Phosphorus as PO4	0.015				U	
8	CCV	22:30	Total Phosphorus as PO4	1.65	1.53	108	90-110		Phos Cal Int_00301
9	CCB	22:30	Total Phosphorus as PO4	0.015				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-70279-3

SDG No.: _____

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 282883 Date: 06/19/2015 22:30 Prep Batch: 282836 Date: 06/19/2015 15:44							
365.1	MB	Total Phosphorus as	0.015	U	mg/L	0.15	1
	280-282836/4-A	PO4					
Batch ID: 280818 Date: 06/08/2015 12:08							
SM 4500	MB 280-280818/1	Sulfite	0.50	U	mg/L	2.0	1
SO3 B							

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-70279-3

SDG No.: _____

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 282883 Date: 06/19/2015 22:30 Prep Batch: 282836 Date: 06/19/2015 15:44											
365.1	280-70279-6	Total Phosphorus as PO4	0.016	J	mg/L						
365.1	280-70279-6	Total Phosphorus as PO4	1.63		mg/L	1.53	105	90-110			
	MS										

Calculations are performed before rounding to avoid round-off errors in calculated results.

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-70279-3
SDG No.: _____
Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Lim	Q
Batch ID: 282883 Date: 06/19/2015 22:30 Prep Batch: 282836 Date: 06/19/2015 15:44											
365.1	280-70279-6	Total Phosphorus as	1.66		mg/L	1.53	107	90-110	2	10	
	MSD	PO4									

Calculations are performed before rounding to avoid round-off errors in calculated results.

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-70279-3

SDG No.: _____

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 280818 Date: 06/08/2015 12:08								
SM 4500 SO3 B	54400-MW55D-0615	280-70279-6	Sulfite	0.50	mg/L			U
SM 4500 SO3 B	54400-MW55D-0615	280-70279-6 DU	Sulfite	0.50	mg/L	NC	20	U

Calculations are performed before rounding to avoid round-off errors in calculated results.

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-70279-3

SDG No.: _____

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 282883 Date: 06/19/2015 22:30 Prep Batch: 282836 Date: 06/19/2015 15:44 LCS Source: Phos Cal Int_00301											
365.1	LCS 280-282836/3 -A	Total Phosphorus as PO4	1.65		mg/L	1.53	108	90-110			
Batch ID: 280818 Date: 06/08/2015 12:08 LCS Source: Sulfite LCS_00131											
SM 4500 SO3 B	LCS 280-280818/2	Sulfite	20.0		mg/L	31.0	65	50-150			

Calculations are performed before rounding to avoid round-off errors in calculated results.

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-70279-3

SDG Number: _____

Matrix: Water

Instrument ID: WC_Konelab

Method: 365.1

MDL Date: 11/29/2010 00:00

Prep Method: 365.2/365.3/365

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Phosphorus as PO4		0.15	0.01533

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-70279-3
SDG Number: _____
Matrix: Water Instrument ID: WC_Konelab
Method: 365.1 XMDL Date: 11/29/2010 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Phosphorus as PO4		0.15	0.01533

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-70279-3
SDG Number: _____
Matrix: Water Instrument ID: NOEQUIP
Method: SM 4500 SO3 B MDL Date: 11/01/2009 00:00

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Sulfite		2	0.5

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-70279-3
SDG Number: _____
Matrix: Water Instrument ID: NOEQUIP
Method: SM 4500 SO3 B XMDL Date: 11/01/2009 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Sulfite		2	0.5

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-70279-3

SDG No.: _____

Prep Method: 365.2/365.3/365

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
LCS 280-282836/3-A	06/19/2015 15:44	282836		50.0	50.0
MB 280-282836/4-A	06/19/2015 15:44	282836		50.0	50.0
280-70279-6	06/19/2015 15:44	282836		50.0	50.0
280-70279-6 MS	06/19/2015 15:44	282836		50.0	50.0
280-70279-6 MSD	06/19/2015 15:44	282836		50.0	50.0

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-70279-3

SDG No.: _____

Instrument ID: WC_Konelab Method: 365.1

Start Date: 06/19/2015 22:30 End Date: 06/19/2015 22:40

Lab Sample ID	D / F	T y p	Time	Analytes															
				T - P O 4															
ICV 280-282836/1-A	1		22:30	X															
ICB 280-282836/2-A	1		22:30	X															
LCS 280-282836/3-A	1	T	22:30	X															
MB 280-282836/4-A	1	T	22:30	X															
280-70279-6	1	T	22:30	X															
280-70279-6 MS	1	T	22:30	X															
280-70279-6 MSD	1	T	22:30	X															
CCV 280-282836/11-A	1		22:30	X															
CCB 280-282836/12-A	1		22:30	X															
ICV 280-282836/1-A			22:33																
ICB 280-282836/2-A			22:33																
ZZZZZZ			22:33																
ZZZZZZ			22:33																
ZZZZZZ			22:33																
ZZZZZZ			22:33																
ZZZZZZ			22:33																
ZZZZZZ			22:33																
ZZZZZZ			22:33																
ZZZZZZ			22:33																
CCV 280-282836/11-A			22:33																
CCB 280-282836/12-A			22:33																
ZZZZZZ			22:37																
ZZZZZZ			22:37																
ZZZZZZ			22:37																
ZZZZZZ			22:37																
ZZZZZZ			22:37																
ZZZZZZ			22:37																
ZZZZZZ			22:37																
ZZZZZZ			22:37																
ZZZZZZ			22:37																
CCV 280-282836/23-A			22:37																
CCB 280-282836/24-A			22:37																
ZZZZZZ			22:40																
ZZZZZZ			22:40																
ZZZZZZ			22:40																
ZZZZZZ			22:40																
ZZZZZZ			22:40																
ZZZZZZ			22:40																
ZZZZZZ			22:40																
ZZZZZZ			22:40																
CCV 280-282836/33-A			22:40																

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-70279-3

SDG No.: _____

Instrument ID: WC_Konelab Method: 365.1

Start Date: 06/19/2015 22:30 End Date: 06/19/2015 22:40

Lab Sample ID	D / F	T y p e	Time	Analytes															
				T - P O 4															
CCB 280-282836/34-A			22:40																

Prep Types
T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-70279-3

SDG No.: _____

Instrument ID: NOEQUIP Method: SM 4500 SO3 B

Start Date: 06/08/2015 12:08 End Date: 06/08/2015 12:08

Lab Sample ID	D / F	T y p e	Time	Analytes																	
				O 3 S - 2																	
MB 280-280818/1	1	T	12:08	X																	
LCS 280-280818/2	1	T	12:08	X																	
280-70279-6	1	T	12:08	X																	
280-70279-6 DU	1	T	12:08	X																	

Prep Types
T = Total/NA

Data Review Checklist – Calibration Methods

Method(s): 365.1	Instrument: KONGLAB	Run Date 6/19/15	Analyst Initials: ADS	SOP #: WC 0017
Prep Batch(s): 282836		Analytical Batch: 282883		

	Yes	No	N/A	2nd
A. Calibration/Instrument Run QC				
Minimum of five standards in ICAL or as specified in SOP?	✓			
Correlation coefficient ≥ 0.995 ?	✓			
Second-source ICV analyzed, and recovery within acceptance limits?	✓			
ICB analyzed immediately after the ICV & results < the RL	✓			
CCV analyzed after every ten samples & recovery within acceptance limits?	✓			
CCB analyzed after every CCV & results < RL?	✓			
Absolute value of the x intercept is $< \pm \frac{1}{2}$ the RL?	✓			
Elution order verified? (anions)			✓	
Were manual integrations performed correctly and properly documented? (anions)			✓	
B. Sample Results				
All samples greater than highest calibration standard diluted and reanalyzed?	✓			
Do associated RLs/MDLs reflect dilutions or limited sample volume?	✓			
All reported results bracketed by in control CCV results?	✓			
Sample analyses done within holding time? If no, create HTV NCM. NCM #	✓			
Are any results over calibration range? If reported, are results E flagged?		✓		
Are J values the result of over dilution?		✓		
Client requirements reviewed and met?	✓			
Were data manually transcribed from instrument printouts or benchsheets into TALS verified 100% including dilution factors, significant figures and correct units? (If Applicable)			✓	
Do the prep and analysis dates in TALS reflect the actual dates?	✓			
Were peak assignments verified? (anions)			✓	
Were manual integrations performed correctly and properly documented? (anions)			✓	
C. Preparation/Matrix QC				
Method blank $< \frac{1}{2}$ RL or all reported samples $> 10\times$ blank have NCM? - (COD, Phenol MB <RL)	✓			
Method blank $< \frac{1}{2}$ RL or NCM provided? - (COD, Phenol MB <RL)	✓			
LCS/LCSD run for batch and within QC limits?	✓			
MS/MSD run at required frequency? Verify that MS/MSD failures are matrix issues and not analytical issues such as not spiking or not applying the appropriate dilution.	✓			
DUP run at required frequency?			✓	

Menu or Tab	Check	1 st	2 nd
Analyst Desktop	Create or open batch		
View Batch Info	Confirm all fields are populated	✓	
	Edit Analyst ID as is appropriate	✓	
Run log	Verify the correct samples and QC are run at the correct frequency (i.e., 10 samples per CCV)	✓	
Sample List	Confirm all Graphics have been uploaded (IC only)	NA	
	In edit mode, If prompted to process samples, select "Yes"	✓	
	Confirm samples are identified (Blue P icon)	✓	
	Confirm correct analysis date and time are listed	✓	
	Confirm samples have the correct dilution factors. TOC – Check for manual dilutions not entered into instrument run log, Auto dilutions (Aut. Dil.) and Injections volume (Inj. Vol.)	✓	
	Confirm samples have the correct method chain assigned	✓	
	Confirm that solid samples have the % moisture listed	NA	
Worksheet	Populate all appropriate fields in the worksheet. Initial Amount, Final Amount, pH, etc.	✓	
Reagents	Confirm reagents are correct and properly associated with QC samples. Confirm that reagent amounts are correct. If reagents are new, verify that the correct COA has been attached to the source standard	✓	
Results	Check for special instructions (Login, Method and Sample comments) - red notebook icon	✓	
	Check for any QC failures	✓	
	Set status for samples based on QC and sample results info (i.e., set to primary analysis with passing QC or reject samples without passing QC or samples that are over-range).	✓	
	Address any results that are reported without passing QC with an NCM	✓	
QC Links	Confirm QC links are correct	✓	
Hist. Data Check	Check historical data. Print charts for outliers. Take corrective action as is appropriate	✓	
Sample List	Re-calculate data and set to appropriate review status (1 st or 2 nd level review)	✓	
	Scan and attach raw data & save batch	✓	

Analyst: Andy Zech	Date: 6/20/15	2nd Level Reviewer: [Signature]	Date: 6/23/15
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Laboratory
Analyzer User

6/19/2015 22:12

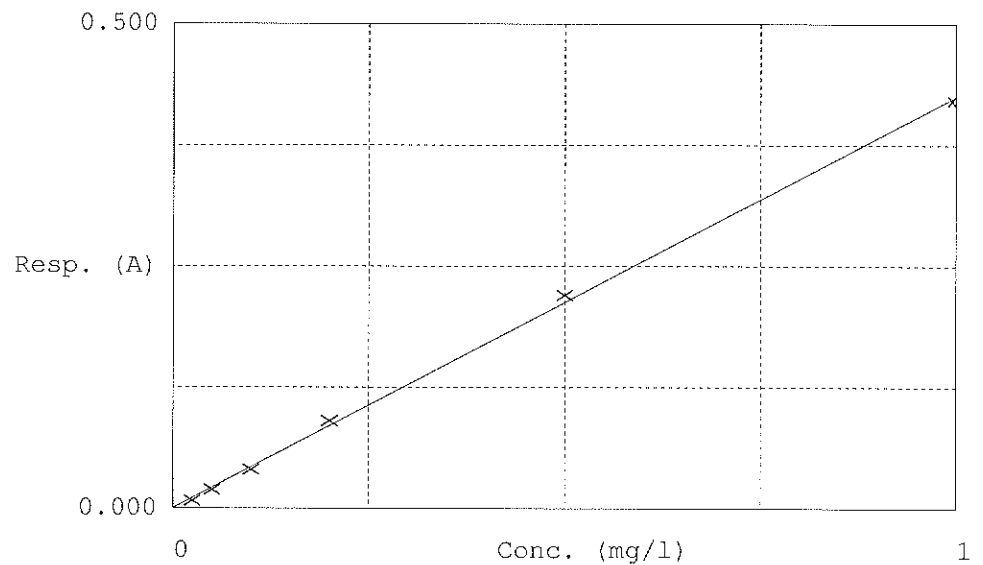
Test TPHOS

Accepted 6/17/2015 16:40

Factor 2.356
Bias 0.001

Coeff. of det. 0.999089

Errors



	Calibrator	Response	Calc. con.	Conc.	Errors
1	TPH 0.025	0.008	0.01792	0.02500	
2	TPH 0.05	0.020	0.04469	0.05000	
3	TPH 0.10	0.040	0.09325	0.10000	
4	TPH 0.2	0.090	0.21181	0.20000	
5	TPH 0.5	0.220	0.51716	0.50000	
6	TPH 1.0	0.421	0.99018	1.00000	

Calibrator Information

TPH 0.025	0.025 MG/L TPHOS
TPH 0.05	0.05 MG/L TPHOS
TPH 0.10	0.10 MG/L TPHOS
TPH 0.2	0.2 MG/L TPHOS
TPH 0.5	0.5 MG/L TPHOS
TPH 1.0	1.0 MG/L TPHOS

ATS
6/19/15

Ascorbic Acid - 00174
TPHOS color - 00037
WC 5ML AA
WC 100 AA

Laboratory
Analyzer User

6/20/2015 8:46

Test: TPHOS

Sample Id	Result	Dil. 1 +	Response	Errors
icv 280-282836/1	0.4185	0.0	0.178	
icb 280-282836/2	-0.0011	0.0	0.000	
lcs 280-282836/3	0.5304	0.0	0.226	
mb 280-282836/4-	-0.0009	0.0	0.000	
280-70279-f-6-a	0.0056	0.0	0.003	
MS 280-70279-f-6-b	0.5326	0.0	0.227	
MS 280-70279-f-6-c	0.5399	0.0	0.230	
280-70625-z-1-a	0.0320	0.0	0.014	
280-70625-y-2-b	0.1022	0.0	0.044	
280-70185-q-1-a	2.8576	0.0 10x	0.122	
ccv 280-282836/1	0.5402	0.0	0.230	
ccb 280-282836/1	-0.0007	0.0	0.000	
-70283-d-1-a	0.0009	0.0	0.001	
280-70283-d-2-a	-0.0020	0.0	-0.000	
280-70283-f-1-a	0.1972	0.0	0.084	
280-70283-f-2-a	0.0006	0.0	0.001	
280-70283-e-3-a	0.0227	0.0	0.010	
280-70283-d-4-a	-0.0029	0.0	-0.001	
280-70556-d-1-a	157.3304	0.0 200x	0.335	
MS 280-70556-d-1-b	145.8667	0.0 200x	0.310	
MS 280-70556-d-1-c	146.2325	0.0 200x	0.311	
580-50649-a-1-a	2.2852	0.0 10x	0.098	
ccv 280-282836/2	0.5361	0.0	0.228	
ccb 280-282836/2	-0.0010	0.0	0.000	
280-70618-e-1-a	0.1161	0.0	0.050	
280-70183-f-1-a	0.0715	0.0	0.031	
280-70183-f-2-a	0.0091	0.0	0.004	
280-70183-e-1-a	1.7603	0.0 2x	0.374	
280-70183-e-2-a	0.0034	0.0	0.002	
280-70183-e-3-a	0.0408	0.0	0.018	
280-70183-e-4-a	0.0066	0.0	0.003	
280-69983-a-4-c	6.7411	0.0 10x	0.287	
ccv 280-282836/3	0.5322	0.0	0.226	
ccb 280-282836/3	-0.0009	0.0	0.000	

N	34
Mean	13.7442
SD	43.01341
CV%	312.96

ATS
6/20/15

Laboratory
Analyzer User

6/19/2015 22:12

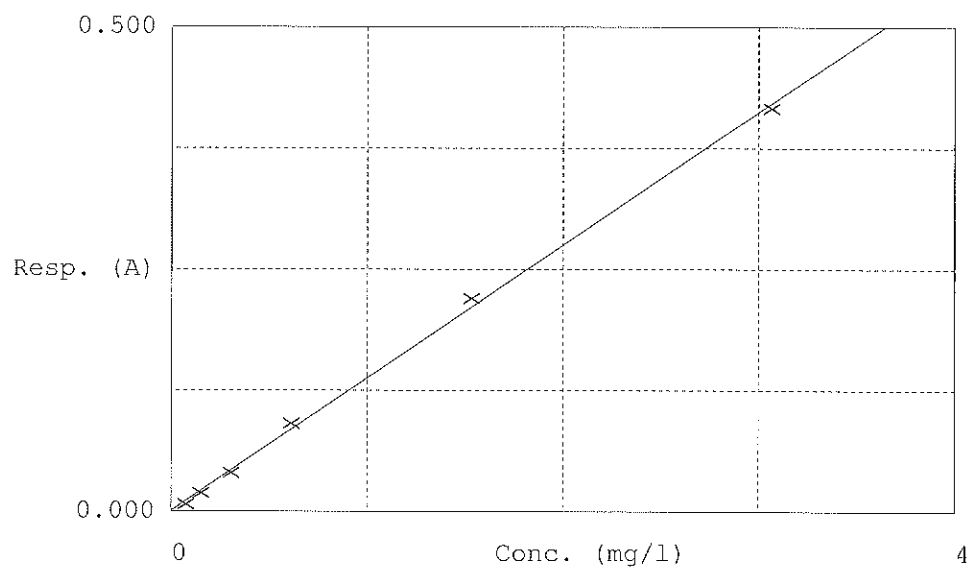
Test T-PO4

Accepted 6/17/2015 18:24

Factor 7.293
Bias 0.001

Coeff. of det. 0.998635

Errors



	Calibrator	Response	Calc. con.	Conc.	Errors
1	TPO4 .0766	0.007	0.04852	0.07665	
2	TPO4 0.153	0.019	0.13340	0.15330	
3	TPO4 0.307	0.040	0.28381	0.30660	
4	TPO4 0.613	0.091	0.65573	0.61320	
5	TPO4 1.533	0.220	1.59863	1.53300	
6	TPO4 3.066	0.416	3.02866	3.06600	

Calibrator Information

TPO4 .0766
TPO4 0.153
TPO4 0.307
TPO4 0.613
TPO4 1.533
TPO4 3.066

Laboratory
Analyzer User

6/19/2015 22:32

Test: T-PO4

Sample Id	Result	Dil. 1 +	Response	Errors
icv 280-282836/1	1.2896	0.0	0.178	
icb 280-282836/2	-0.0042	0.0	0.000	
ics 280-282836/3	1.6520	0.0	0.227	
mb 280-282836/4-	-0.0066	0.0	-0.000	
280-70279-f-6-a	0.0162	0.0	0.003	
MS 280-70279-f-6-b	1.6254	0.0	0.224	Blank resp. low
MS 280-70279-f-6-c	1.6586	0.0	0.228	
ccv 280-282836/1	1.6537	0.0	0.228	
ccb 280-282836/1	-0.0061	0.0	-0.000	

N	9
Mean	0.8754
SD	0.83840
CV%	95.77

AJS
6/19/15

Wet Chemistry Data Review Checklist for Titration Methods				
Method(s):	SM4500803-B	Instrument:	burette	SOP #: NC 0056
Run Date:	6/8/15	Prep Batch(s):	NA	Analyst: MB
		Analytical Batch: 280818		
A. Calibration/Instrument Run QC		Yes	No	N/A
Was the normality of the titrant verified and found acceptable?		/		
B. Sample Results				
Are all sample dilutions appropriate and do associated RLs/MDLs reflect required dilutions or limited sample volume?				/
All reported results bracketed by in control CCV/CCB?				/
Sample analyses done within holding time? If no, create HTV NCM. NCM #				/
Initial pH check documented for all samples (if required)?				/
Preparation benchsheet completed and included in package (if applicable)?				/
Special client requirements checked?		/		/
Was data manually transcribed from instrument printouts or benchsheet into TALS verified 100% including dilution factors and significant figures? (If Applicable)		/		/
Do the prep and analysis dates in TALS reflect the actual dates?		/		/
STD/True Value information is updated and included?		/		/
C. Preparation/Matrix QC				
Method blank < 1/2 RL or all reported samples > 10x blank? - (Alkalinity MB < RL)		/		/
Method blank < 1/2 RL or NCM provided? - (Alkalinity MB < RL)		/		/
LCS/LCSD run for batch and within QC limits?		/		/
MS/MSD run at required frequency and within limits or NCM written?				/
DUP run at required frequency and RPD within 20% or NCM written?		/		/
Menu or Tab	Check			1st 2nd
Analyst Desktop	Create or open batch			
View Batch Info	Confirm all fields are populated			/
	Edit Analyst ID as is appropriate			/
Run log	Verify the correct samples and QC are run at the correct frequency (i.e., 10 samples per CCV)			/
Sample List	In Edit mode, If prompted to process samples, select "Yes"			/
	Confirm samples are identified (Blue P Icon)			/
	Confirm correct analysis date and time are listed			/
	Confirm samples have the correct dilution factors			/
	Confirm samples have the correct method chain assigned			/
	Confirm that solid samples have the % moisture listed			/
Worksheet	Populate all appropriate fields in the worksheet. Initial Amount, Final Amount, pH, etc.			/
	Confirm that data are entered correctly. Verify pH is recorded when appropriate for the method.			/
Reagents	Confirm reagents are correct and properly associated with QC samples. Confirm that reagent amounts are correct. If reagents are new verify that the correct COA has been attached to the source standard			/
Results	Check for special instructions (Login, Method and Sample comments) - red notebook icon			/
	Check for any QC failures			/
	Check for "E" flagged (over-range) data			/
	Set status for samples based on QC and sample results info (i.e., set to primary analysis with passing QC or reject samples without passing QC or samples that are over-range)			/
	Address any results that are reported without passing QC with an NCM			/
QC Links	Confirm QC links are correct			/
Hist. Data Check	Check historical data. Print charts for outliers. Take corrective action as is appropriate			/
Sample List	Re-calculate data and set to appropriate review status (1 st or 2 nd level review)			/
	Scan and attach raw data & save batch			/
Analyst:	MB	Date:	6/8/15	Analyst Comments:
Reviewer:	ae	Date:	6/12/15	Reviewer Comments:

Sulfite by Titration 377.1 and SM 4500 SO₃⁻² B

[illegible]

W/8/15

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-70279-3

SDG No.: _____

Batch Number: 282836 Batch Start Date: 06/19/15 15:44 Batch Analyst: Schwemin, Andrew JBatch Method: 365.2/365.3/365 Batch End Date: _____

Lab Sample ID	Client Sample I	Method Chain	Basis	InitialAmount	FinalAmount	Phos Cal Int 00301	phos icv Int 00280	AnalysisCommen t	
ICV 280-282836/1		365.2/365.3 /365, 365.1		50.0 mL	50.0 mL		2 mL	pH 2	
ICB 280-282836/2		365.2/365.3 /365, 365.1		50.0 mL	50.0 mL			pH 2	
LCS 280-282836/3		365.2/365.3 /365, 365.1		50.0 mL	50.0 mL	2.5 mL		pH 2	
MB 280-282836/4		365.2/365.3 /365, 365.1		50.0 mL	50.0 mL			pH 2	
280-70279-F-6	54400-MW55D-06 15	365.2/365.3 /365, 365.1	T	50.0 mL	50.0 mL			pH 2	
280-70279-F-6 MS	54400-MW55D-06 15	365.2/365.3 /365, 365.1	T	50.0 mL	50.0 mL	2.5 mL		pH 2	
280-70279-F-6 MSD	54400-MW55D-06 15	365.2/365.3 /365, 365.1	T	50.0 mL	50.0 mL	2.5 mL		pH 2	
CCV 280-282836/11		365.2/365.3 /365, 365.1		50.0 mL	50.0 mL	2.5 mL		pH 2	
CCB 280-282836/12		365.2/365.3 /365, 365.1		50.0 mL	50.0 mL			pH 2	

Batch Notes	
Block Digestor Name	A & B
First End time	1830
Ammonium Persulfate Lot #	Ammonium SO4_00019
Oven, Bath or Block Temperature 1	140 Centigrade
Pipette ID	wc5MLAA
First Start time	1630
Sulfuric Acid Reagent ID Number	11N h2s04_00041
ID number of the thermometer	140
Digestion Tube/Cup Lot #	1408268
Uncorrected Temperature	140 Celsius

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

365.1

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-70279-3

SDG No.: _____

Batch Number: 282836 Batch Start Date: 06/19/15 15:44 Batch Analyst: Schwemin, Andrew JBatch Method: 365.2/365.3/365 Batch End Date: _____

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

365.1

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-70279-3

SDG No.: _____

Batch Number: 282883 Batch Start Date: 06/19/15 22:30 Batch Analyst: Schwemin, Andrew JBatch Method: 365.1 Batch End Date: _____

Lab Sample ID	Client Sample I	Method Chain	Basis	InitialAmount	FinalAmount	CalcMsg			
ICV 280-282836/1-A		365.1		2.0 mL	2.0 mL	Not Calculated. No Phosphorus result			
ICB 280-282836/2-A		365.1		2.0 mL	2.0 mL	Not Calculated. No Phosphorus result			
LCS 280-282836/3-A		365.1		2.0 mL	2.0 mL	Not Calculated. No Phosphorus result			
MB 280-282836/4-A		365.1		2.0 mL	2.0 mL	Not Calculated. No Phosphorus result			
280-70279-F-6 -A	54400-MW55D-06 15	365.1	T	2.0 mL	2.0 mL	Not Calculated. No Phosphorus result			
280-70279-F-6 -B MS	54400-MW55D-06 15	365.1	T	2.0 mL	2.0 mL	Not Calculated. No Phosphorus result			
280-70279-F-6 -C MSD	54400-MW55D-06 15	365.1	T	2.0 mL	2.0 mL	Not Calculated. No Phosphorus result			
CCV 280-282836/11 -A		365.1		2.0 mL	2.0 mL	Not Calculated. No Phosphorus result			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

365.1

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-70279-3

SDG No.: _____

Batch Number: 282883 Batch Start Date: 06/19/15 22:30 Batch Analyst: Schwemin, Andrew JBatch Method: 365.1 Batch End Date: _____

Lab Sample ID	Client Sample I	Method Chain	Basis	InitialAmount	FinalAmount	CalcMsg			
CCB 280-282836/12 -A		365.1		2.0 mL	2.0 mL	Not Calculated. No Phosphorus result			
LCS 280-282836/3- A		365.1		2.0 mL	2.0 mL	OK			
MB 280-282836/4- A		365.1		2.0 mL	2.0 mL	OK			
280-70279-F-6 -A	54400-MW55D-06 15	365.1	T	2.0 mL	2.0 mL	OK			
280-70279-F-6 -B MS	54400-MW55D-06 15	365.1	T	2.0 mL	2.0 mL	OK			
280-70279-F-6 -C MSD	54400-MW55D-06 15	365.1	T	2.0 mL	2.0 mL	OK			

Batch Notes	
Ammonium Molybdate Reagent ID Number	tphos color1_00037
Ascorbic Acid Reagent ID Number	Ascorbic Acid_0174
Potassium Antimonyl Tartrate Reagent ID	tphos color1_00037
Pipette ID	wc5MLAA wc1000AA
Perform Calculation (0=No, 1=Yes)	1
Sulfuric Acid Reagent ID Number	tphos color1_00037

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

365.1

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-70279-3

SDG No.: _____

Batch Number: 280818 Batch Start Date: 06/08/15 12:08 Batch Analyst: Bland, Morgan RBatch Method: SM 4500 SO3 B Batch End Date: _____

Lab Sample ID	Client Sample I	Method Chain	Basis	InitialAmount	FinalAmount	TitrantBlank	TitrantVolume1	Sulfite LCS 00131	
MB 280-280818/1		SM 4500 SO3 B		50 mL	50 mL	0.1 mL	0.00 mL		
LCS 280-280818/2		SM 4500 SO3 B		50 mL	50 mL	0.1 mL	2.00 mL	5 mL	
280-70279-A-6	54400-MW55D-06 15	SM 4500 SO3 B	T	50 mL	50 mL	0.1 mL	0.00 mL		
280-70279-A-6 DU	54400-MW55D-06 15	SM 4500 SO3 B	T	50 mL	50 mL	0.1 mL	0.00 mL		

Batch Notes	
Batch Comment	pipets: 1000CL ,5000EE, 5000MLBB
Nominal Amount Used	50 mL
Normality	0.0125 N

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

SM 4500 SO3 B

Shipping and Receiving Documents

TestAmerica Denver

4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody F

280-70279 Chain of Custody

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information Client Contact: Anna Zabierek Company: GSI Environmental, Inc. Address: 9800 Great Hills Trail, Ste 350E City: Austin State, Zip: TX, 78759 Phone: 512-346-4474(Tel) Email: atw@gsi-net.com Project Name: GSI - McConnell Air Force Base, Kansas Site: SWMU 207		Sampler: A. Zabierek Lab PM: Walker, Elaine M Phone: 512-346-4474 E-Mail: elaine.walker@testamericainc.com		Carrier Tracking No(s): Fed Ex 806524572298 Page: 1 of 1 Job #: 3969-211	
Due Date Requested: TAT Requested (days): 10 PO #: 3969-211 Purchase Order Requested Project #: 28013169 SSOW#:		Analysis Requested 9056 28D - Sulfate/Chloride, 9056 48HR - Nitrate/Nitrite - W 6010B - Dissolved Fe (Field Filtered) - Water 6010C, DOD5 - Total Fe, Ca, K, Mg, Na - Water 8260B, DOD5 - VOCs - Water 395.1 - Phosphate - Water 2320B - Alkalinity - Water 2540C, Calcd - TDS - Water 7198A - Hexavalent Chromium - Water RSK 175 - Dissolved Gases (Methane/Ethane/Ethene) - W 8260 AFCE - VOCs (Tetrachloro) - Soil 9060A - Total Organic Carbon - Soil Percent Moisture - Soil Total Number of Containers			
Sample Identification Sample ID: 544003-TB19-0615 544002-EB18-0615 544000-MW43-0615 544000-MW56-0615 544000-MW55S-0615 544000-MW55D-0615		Field Filtered Sample (Yes or No) Matrix (W=water, S=solid, O=waste/soil, BT=trace, A=air) Preservation Code Sample Date Sample Time 6.4.15 0925 0915 1155 1405 1510			
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/Note: Short Holds: Hex. Chromium (24 hr), Nitrate/Nitrite, Sulfite (48 hr) Rush Rush			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Special Instructions/OC Requirements:			
Empty Kit Relinquished by: Relinquished by: [Signature] Date/Time: 6-4-15/1735 Relinquished by: [Signature] Date/Time: Relinquished by: Date/Time:		Method of Shipment: Received by: [Signature] Date/Time: 6/5/14 7:00 Received by: Date/Time: Received by: Date/Time:			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 13+0.1 IR+S DW 6/5/15			

06/26/2015

Login Sample Receipt Checklist

Client: GSI Environmental, Inc

Job Number: 280-70279-3

Login Number: 70279

List Source: TestAmerica Denver

List Number: 1

Creator: White, Denise E

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	